

# COAD: Shining the Jewel

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### 2012

- Centre for Research on the Epidemiology of Disasters (CRED)
- 310 Natural Disasters
- 9,930 deaths related to nature disasters
- 106 million people victimized by natural disasters
- 115 countries affected by disasters
- \$180 billion in damages



## Missouri Disasters

• 1980s: 5

• 1990s: 9

• 2000s: 26

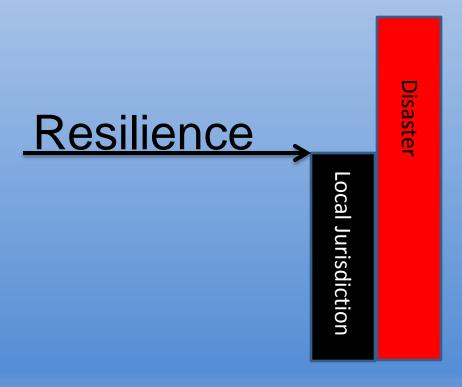
Every 2 years

Every 1.1 years

Every 6 months



## Overload



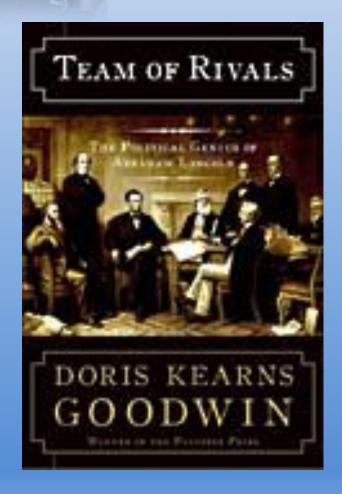
#### The Six Blind Men

For Phat Phish

September 2007

I animated the Film



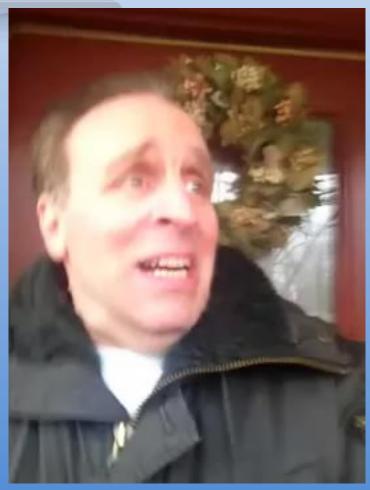




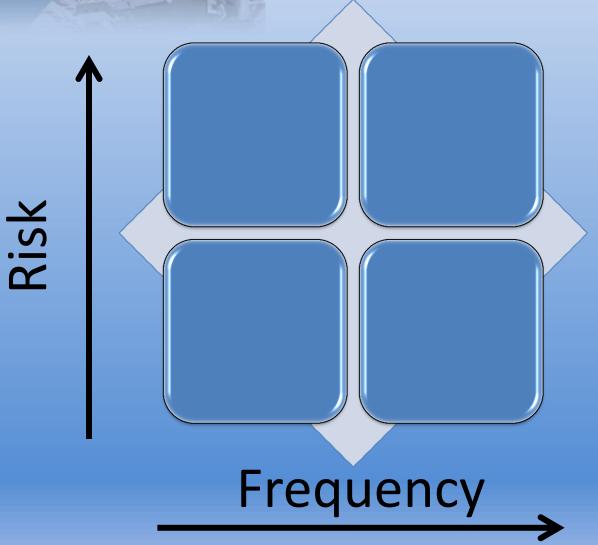




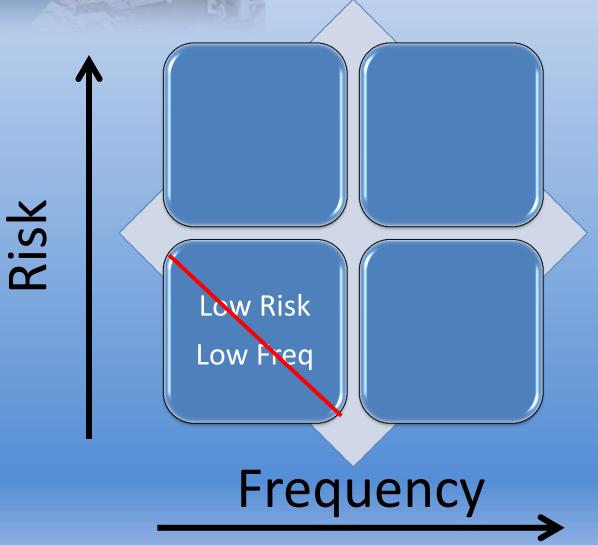




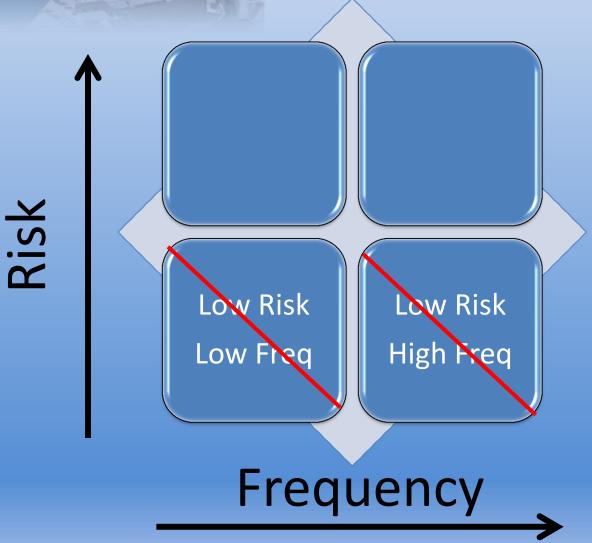




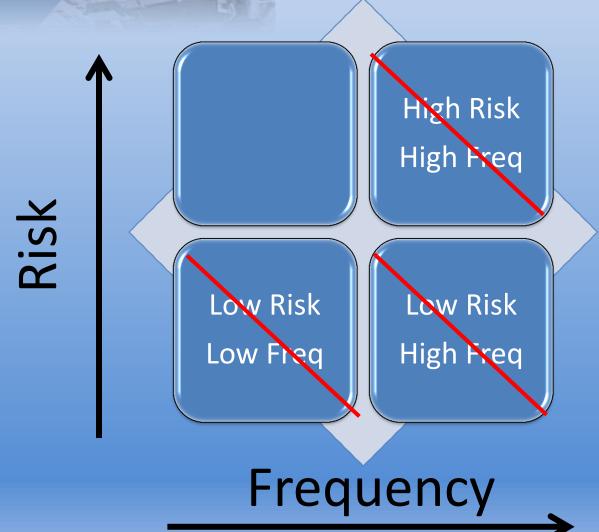




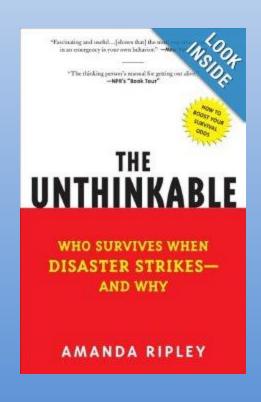














Risk

### Gordon Graham

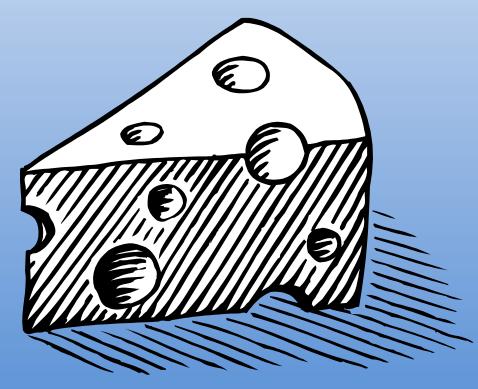
High Risk High Risk Low Freq High Freq Low Risk Low Risk High Freq Low Freq Frequency



## Predictable is Preventable



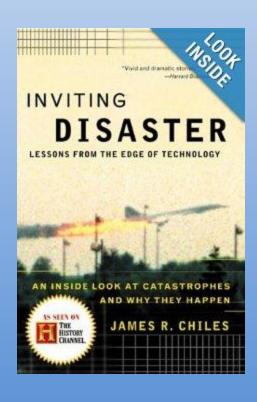
### Swiss Cheese



"A trajectory of accident opportunity"

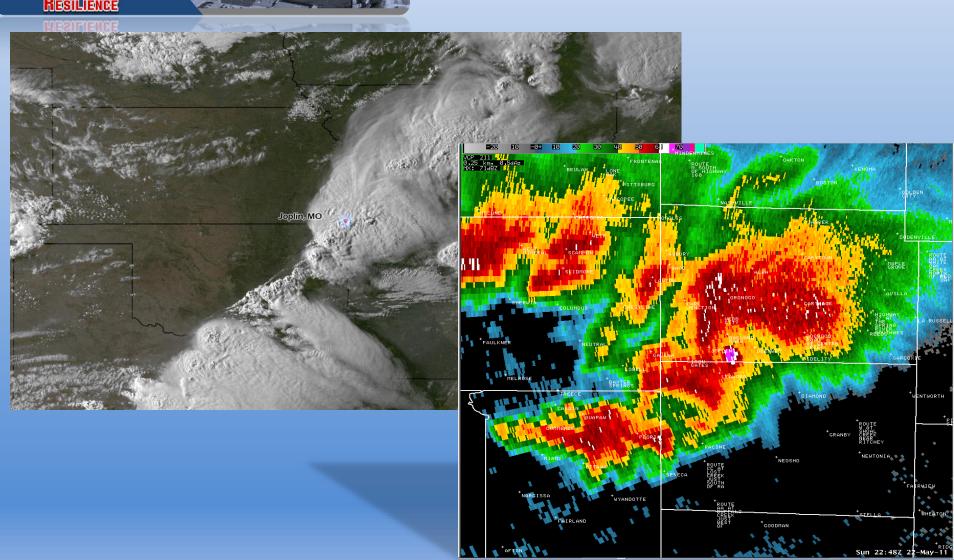
James Reason, University of Manchester 1990







# Holes Align





RESILIE



The aftermath: A 198mph tornado tore a path a mile wide and six miles long straight through Joplin, Missouri devastating all in its wake

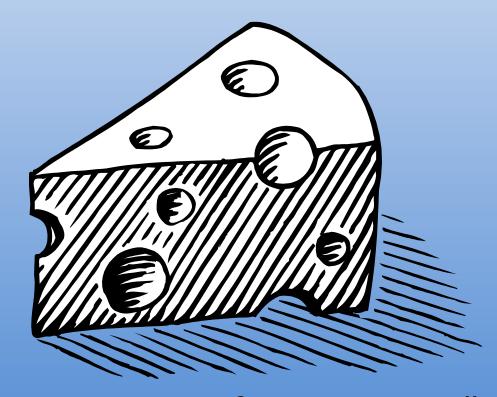


The way things used to be: This Google Street Map view shows the same place as the above picture, before the horrific tornado struck



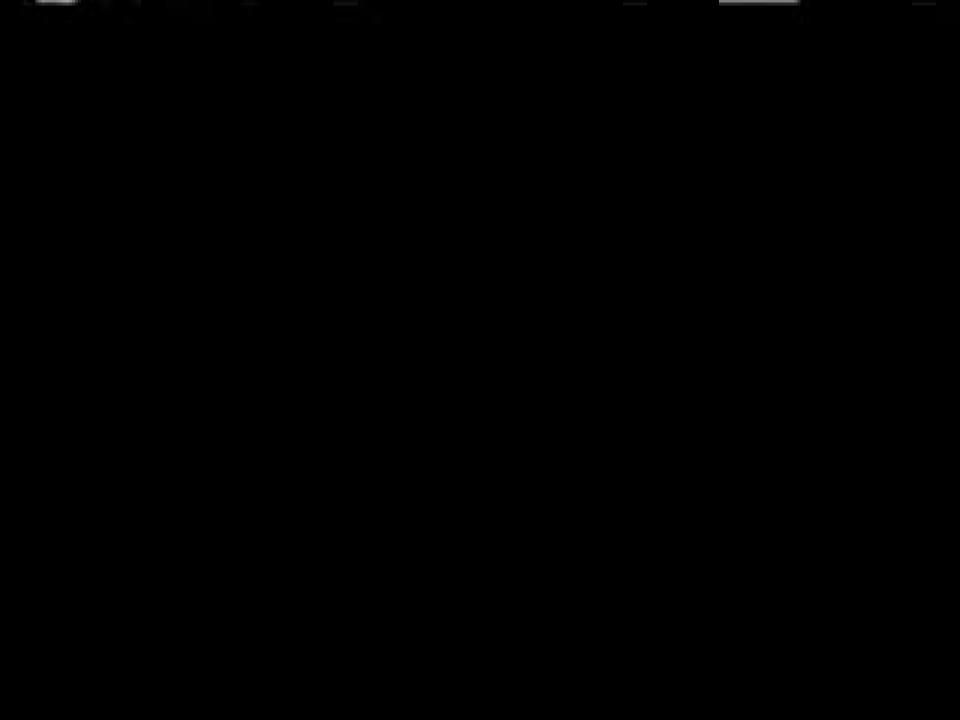


## Swiss Cheese



"A trajectory of opportunity"

COAD









#### Rick Rescorla

RESILIENCE

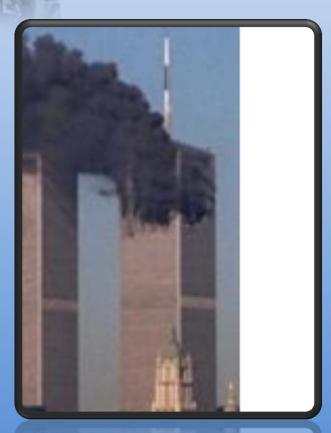


Security Officer, Morgan Stanley



# Sept. 11, 2001 8:46 a.m.

RESILIENCE



Officials advise to stay in place



#### What now

- Evacuation of 2,700 Morgan Stanley employees in WTC 2 (22 floors)
- 500 employees WTC 5



## 9:03 a.m.







#### Rick Rescorla

- "As soon as I make sure everyone else is out"
- Last seen, 10<sup>th</sup> floor, heading up.



## Morgan Stanley

- Operating personnel walked 22 blocks to backup site
- 9:20 a.m. Backup site activated
- 9:30 a.m. Senior management command center activated



## Secret Formula

Passion +
Patience +
Participatory Leadership
Successful COAD













"There is nothing stronger than the heart of a volunteer."

— James Doolittle